

Phased Array Technique for Low Signal-To-Noise Ratio Wind Tunnels, Phase II

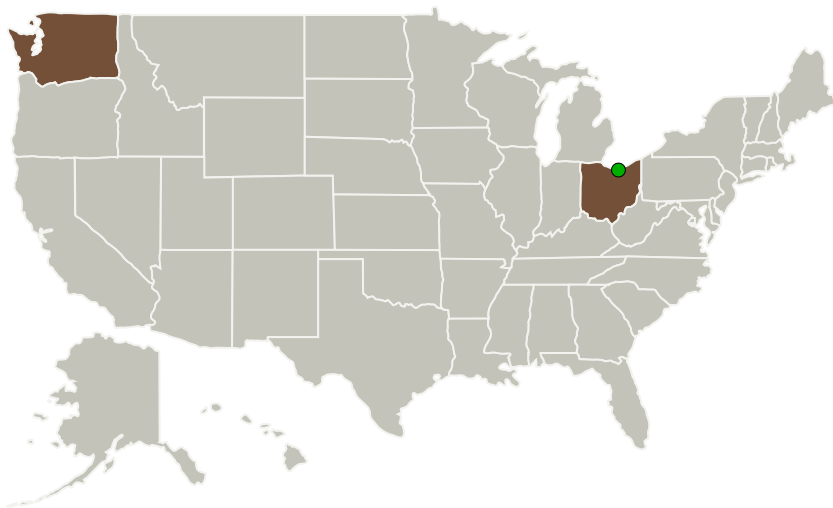
Completed Technology Project (2015 - 2017)




Project Introduction

Noise measurement of aerospace vehicles is difficult and usually requires expensive, specialized facilities. With the proliferation of UAVs there is need for noise data, both for ISR and non-military vehicles. Wind tunnel testing is common and much less expensive. The innovation is a novel in-flow microphone array combined with the state of the art Functional Beamforming algorithm that makes it practical to measure UAV noise in a non-acoustic wind tunnel. The proposal calls for further development of the measurement technique so that it can be commercialized as a service using the Kirsten Wind Tunnel at the University of Washington.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
OPTINAV, Inc.	Lead Organization	Industry	Bellevue, Washington
 Glenn Research Center(GRC)	Supporting Organization	NASA Center	Cleveland, Ohio

Primary U.S. Work Locations

Ohio	Washington
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Project Transitions

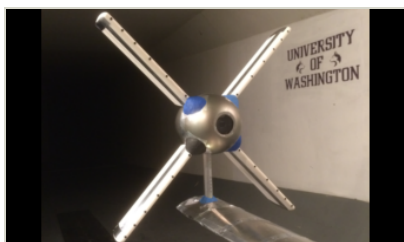
 **May 2015:** Project Start

 **May 2017:** Closed out

Closeout Documentation:

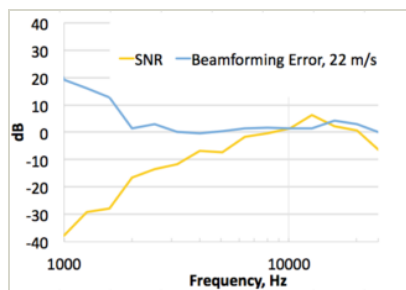
- Final Summary Chart(<https://techport.nasa.gov/file/137787>)

Images



Briefing Chart

Phased Array Technique for Low Signal-To-Noise Ratio Wind Tunnels Briefing Chart (<https://techport.nasa.gov/image/130539>)



Final Summary Chart Image

Phased Array Technique for Low Signal-To-Noise Ratio Wind Tunnels, Phase II Project Image (<https://techport.nasa.gov/image/127462>)

Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Organization:

OPTINAV, Inc.

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Principal Investigator:

Robert Dougherty

Co-Investigator:

Robert S Dougherty

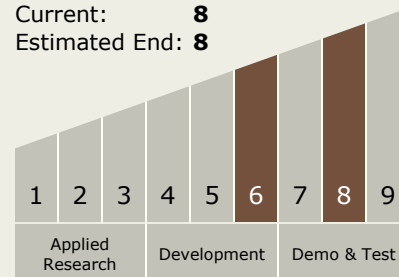
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Technology Maturity (TRL)

Start: 6
Current: 8
Estimated End: 8



Technology Areas

Primary:

- TX15 Flight Vehicle Systems
 - TX15.1 Aerosciences
 - TX15.1.8 Ground and Flight Test Technologies

Target Destinations

The Sun, Earth, The Moon, Mars, Others Inside the Solar System, Outside the Solar System